

Brian F. Thomas
California Institute of Technology
Jet Propulsion Laboratory
4800 Oak Grove Drive, Pasadena CA 91109 USA
Brian.F.Thomas@jpl.nasa.gov

RESEARCH FOCUS

My research on watershed behaviors focuses on the spatio-temporal exchange between the subsurface and surface water to understand watershed system dynamics. I use a combination of environmental statistics, remote sensing and local- to global-scale modeling techniques to assess future challenges in water resources.

EDUCATION

2012 **PhD (Civil and Environmental Engineering)**, Tufts University, Medford MA
Advisor: Richard M. Vogel

2004 **MS (Hydrology)**, University of New Hampshire, Durham NH
Advisor: J. Matthew Davis

1997 **BS (Environmental Geology and Technology, Summa Cum Laude)**
University of North Dakota, Grand Forks ND

POSITIONS HELD

2014-current **Caltech Postdoctoral Researcher**, Jet Propulsion Laboratory
Advisor: James S. Famiglietti

2012-2014 **Postdoctoral Researcher**, University of California Center for Hydrologic Modeling, University of California-Irvine. Advisor: James S. Famiglietti

2010-2012 **Consultant**, World Bank, Washington DC

2009-2011 **Teaching Assistant**, Department of Civil and Environmental Engineering, Tufts University, Medford MA.

2009-2009 **Environmental Scientist**, U.S. Environmental Protection Agency, Boston MA.

2004-2009 **Senior Hydrogeologist**, Weston & Sampson Engineers, Peabody MA.

PUBLICATIONS

Refereed Papers/Under Review (6)

Thomas, B.F., R.M. Vogel and J.S. Famiglietti, Objective Baseflow Recession Analysis, under review, Journal of Hydrology.

Thomas, B.F. and J.S. Famiglietti, Sustainable groundwater management in the arid southwestern US: Coachella Valley, CA, under review, Hydrological Processes.

Castle, S., **B.F. Thomas**, J.T. Reager and J.S. Famiglietti, GRACE observations of accessible water storage changes during drought in the Colorado River Basin, DOI: 10.1002/2014GL061055, GRL.

Reager, J.T., **B.F. Thomas** and J.S. Famiglietti, River basin flood potential inferred using GRACE gravity observations at several months lead-time, Nature Geoscience, doi:10.1038/ngeo2203.

Thomas, B.F., R.M. Vogel, C.N. Kroll and J.S. Famiglietti, Estimation of the baseflow recession constant under human interference, *Water Resources Research*, 49(11), 7366-7379, 2013.

Thomas, B.F. and R.M. Vogel, The impact of stormwater recharge practices on Boston groundwater levels, *Journal of Hydrologic Engineering*, Vol. 17, No. 8, pp. 923-932, August 2012.

Manuscripts in Preparation (6)

Thomas, B.F., and J.S. Famiglietti, Use of Mann-Kendall test to detect trends in groundwater observations, in preparation for submittal to *Water Resources Research*.

Thomas, B.F. R.M. Vogel and J.S. Famiglietti, Detecting trends in urban groundwater: double mass curve approach, in preparation for submittal to *Advanced in Water Resources*.

Richey, A.S., **B.F. Thomas** , K.A. Voss, and J.S. Famiglietti, Quantifying Renewable Groundwater Stress with GRACE, in preparation for submittal to *Journal of Hydrology*.

Richey, A.S., **B.F. Thomas**, M.H. Lo, J.T. Reager and J. S. Famiglietti, Uncertainty in Global Groundwater Storage Estimates in a Total Groundwater Stress Framework, in preparation for submittal to *Journal of Hydrology*.

Nanteza, J., C. de Linage, **B.F. Thomas**, and J.S. Famiglietti, Satellite-based monitoring of groundwater storage changes in basement aquifers: Validation of GRACE measurements in the Upper Nile River Basin, for submittal to *Water Resources Research*.

Thomas, B.F. and J.S. Famiglietti, The history of California water management as told through baseflow analysis, in preparation for submittal to *Advanced in Water Resources*.

AWARDS AND HONOURS

2011-2012	Tufts Institute of the Environment Graduate Fellow
2011	Tufts Graduate Institute for Teaching (GIFT) Fellow
2010	NSF-CUAHSI Hydrologic Synthesis Fellow

INVITED TALKS (5)

Thomas, B.F., 2014, Sustainability of Groundwater Systems: Coachella Valley and Borrego Springs, UC-Riverside Green Lecture Series, Palm Desert CA, March 2014.

Thomas, B.F., R.M. Vogel and J.S. Famiglietti, 2013, Hydromorphology of managed watersheds, CUERE, Baltimore MD, Sept 2013.

Thomas, B.F., 2012, Hydromorphic response of groundwater and surface water systems, University of California-Irvine, Department of Civil Engineering, Irvine CA, Oct 2012.

Thomas, B.F., 2012, Recession analysis: testing the nonlinear hypothesis, City University of New York, Department of Civil Engineering, New York, NY, June 2012

Thomas, B.F., 2012, Recession analysis: testing the nonlinear hypothesis, University of California-Irvine, Department of Earth System Science, May 2012

TEACHING EXPERIENCE

Terrestrial Hydrology, 2014, (UCI, ESS 232), 1 lecture, University of California-Irvine
Department of Earth System Science

Local and Regional Environmental Issues, 2013, (UCI, ESS 60B), 2 lectures, University of California Department of Earth System Science

Environmental Statistics, 2011, (Tufts, CEE 202), 2 lectures, Tufts University Department of Civil and Environmental Engineering
Engineering Graphics and CAD, 2009-2010, (Tufts, EN2), Teaching Assistant, Tufts University Department of Civil and Environmental Engineering
Introduction to Computing in Engineering, 2009-2010 (Tufts, ES2), Teaching Assistant, Tufts University Department of Civil and Environmental Engineering
Groundwater Hydrology, 2002, (UNH, ESCI 810), Teaching Assistant, University of New Hampshire Department of Earth Science

PROFESSIONAL SERVICE

Manuscript reviewer for:	Water Resources Research, Journal of Arid Hydrology, Physics and Chemistry of the Earth
Proposal reviewer for:	National Science Foundation (USA)
Membership of:	American Geophysical Union (AGU), National Groundwater Association (NGWA), American Society of Civil Engineers (ASCE)
Professional Licensure:	Professional Geologist (#761), State of New Hampshire